

REMARKS

Claims 1-20 are currently pending in the application. By this response no claims are amended, added, or canceled. Reconsideration of the rejected claims in view of the following remarks is respectfully requested.

Allowed Claims

Applicants appreciate the indication that claims 6-9 and 11-13 contain allowable subject matter. However, Applicants submit that all of the claims are in condition for allowance for the following reasons.

35 U.S.C. §103 Rejection

Claims 1-4, 10, and 14-19 were rejected under 35 U.S.C. §103(a) for being unpatentable over U.S. Patent No. 6,917,009 issued to Rosenbaum et al. ("Rosenbaum"). Claims 5 and 20 were rejected under 35 U.S.C. §103(a) for being unpatentable over Rosenbaum in view of U.S. Patent No. 5,043,908 issued to Manduley et al. ("Manduley"). These rejections are respectfully traversed.

Independent Claims 1, 10 and 15 over Rosenbaum

The instant invention generally relates to systems for sorting articles according to information (such as addresses or barcodes) on the articles, and more particularly, to systems and methods for efficiently using available video encoding resources when automatic machine recognition (e.g., barcode reading and optical character recognition) does not successfully resolve information needed for sorting articles.

In non-limiting exemplary implementations of the invention, when an imaging device (e.g., a bar code reader or optical character recognition device) does not properly resolve information for handling an article, a determination is made whether the article will be sent to a video coding station. In embodiments, the determination involves comparing a measurement of recent performance of the video coding system to a time allowed for video coding. If a current weighted average response time is less than or equal to the threshold response time, then the article is destined for the video coding system. However, if the current weighted average response time exceeds the threshold response time, then the article may be destined for reprocessing, a sort bin for unresolved articles or a manual handling and coding station. In this manner, the invention allocates video encoding resources when it is determined that encoding can probably be completed in a timely manner or that video coding stations are not busy. Thus, unresolved articles are less likely to consume valuable system resources, including physical space, for a prolonged period of time when video coding stations are saturated.

More specifically, independent claims 1, 10, and 15 recite, in pertinent part:

... determining whether an estimated time for video coding exceeds a determined threshold, if an imaging device does not resolve information needed for handling an article ...

Applicants submit that Rosenbaum does not teach or suggest these features and that it would not have been obvious to one of ordinary skill in the art to modify Rosenbaum in the manner asserted.

No Teaching or Disclosure of Time Comparison with a Threshold

The Examiner admits that Rosenbaum does not disclose determining if an estimated time exceeds a threshold, but asserts that “a time comparison with a threshold must be present” and

that it would have been obvious “to implement the time comparison with a threshold in order to prevent the system from creating a huge backlog of uncoded mail pieces.” Applicants respectfully disagree.

Rosenbaum discloses a method and apparatus for processing mail pieces. The system comprises a feeding mechanism 110 that transports mail pieces past a video scanner 120. An image of each mail piece is sent from the video scanner 120 to an OCR processor 130 to undergo processing. Mail pieces whose image is successfully read by the OCR processor 130 are imprinted with a bar code and sorted. Mail pieces whose image is not successfully read by the OCR processor 130 are assigned to a clerk for video coding. While awaiting processing (either by OCR or video coding), the mail pieces are held in a delay loop 121.

In Rosenbaum, when the OCR processor 130 cannot determine the mail piece information, the mail piece is automatically put into holding (step 322, FIG. 3). Then, other coding methods are attempted, i.e., a partial matching (step 324). If the other methods are not successful, then the image of the mail piece is grouped into a section in a database 172 by sorting device 170. The grouped images in the sections are sent to video coding stations 200 for manual handling by clerks.

The Rosenbaum system determines which encoding clerk will receive the group of images of unsuccessfully read mail for manual handling. That is, Rosenbaum is directed to distributing a group of images of the unsuccessfully read mail pieces to one of the encoding clerks. Moreover, to distribute the groups of images of the unsuccessfully read mail pieces, Rosenbaum determines which encoding clerk has the highest priority and is available for the grouping. The priority is based on data such as the clerk’s measured professional competence, overall experience, experience with a particular destination region, success rate, position,

background and education. Thus, Applicants submit that Rosenbaum sends each piece of unsuccessfully read mail to a video coding clerk at a video coding station. Moreover, Rosenbaum determines which video coding station to send the unsuccessfully read mail based on a prioritization of the video coding clerks.

However, Rosenbaum does not teach or suggest determining whether an estimated time for video coding exceeds a determined threshold, as recited in the claimed invention. In fact, Rosenbaum makes no mention whatsoever of an estimated time for video coding or a threshold, much less of a making a determination based upon a comparison between the two. Instead, Rosenbaum teaches that unsuccessfully read images are automatically sent to the video coding stations for manual processing by clerks, without any concern of an estimated time that such video coding will require. Put simply, there is no suggestion of an estimated time for video coding present in the disclosure of Rosenbaum. Moreover, because unsuccessfully read images are automatically sent to the video coding stations, there is no need for Rosenbaum to even consider an estimated time for video coding.

Comparison and Threshold not Inherent

Applicants respectfully disagree with the Examiner's assertion that a time comparison and threshold must be present due to the system processing mail at a rate of 10 pieces per second.

The Examiner states that "in order to keep the system processing mail at a rate of 10 pieces per second, a time comparison with a threshold must be present and set at about 0.1 seconds per mail piece." However, Applicants respectfully submit that the Examiner has misinterpreted Rosenbaum.

Rosenbaum discloses that the feeder 110 feeds mail pieces to the video scanner 120 at a rate of approximately 10 mail pieces per second. In other words, the “10 mail pieces per second” is a feeding rate of the scanner 120. Moreover, Rosenbaum provides no teaching that the rate of transporting mail pieces past the video scanner 120 has any relation to determining whether or not to send mail pieces to video coding stations. The mail pieces are then sent downstream to delay loop 121 to await processing, either by OCR or video coding.

Thus, Applicants submit that the Rosenbaum device is able to continue scanning mail pieces at approximately 10 mail pieces per second, regardless of a processing rate of the mail pieces (either by OCR or video coding), as the scanned mail pieces are subsequently held in a delay loop 121. Therefore, Applicants submit that the Examiner’s assertion that “in order to keep the system processing mail at a rate of 10 pieces per second, a time comparison with a threshold must be present” is incorrect. As such, Applicants respectfully submit that the rate of the feeder 110, does not teach or imply an estimated time for video coding or a threshold.

Second, Applicants traverse the Examiner’s assertion of inherency with respect to these features. The Examiner is reminded of the following guidance that MPEP §2112 provides regarding inherency:

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not

sufficient.' *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

...

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)

Applicants respectfully submit that the Examiner has provided no basis in fact and/or technical reasoning to reasonably support the determination that "a time comparison with a threshold must be present". In fact, Applicants submit that the Examiner has provided no basis in fact or technical reasoning whatsoever, and, rather, has merely presented a naked assertion of inherency. Accordingly, Applicants respectfully request that Examiner provide a basis in fact and/or technical reasoning to support the assertion that a feeder transporting mail pieces past the video scanner at a rate of approximately 10 mail pieces per second necessarily teaches or suggests determining whether an estimated time for video coding exceeds a determined threshold, as recited in the claimed invention.

Not Obvious to Modify Rosenbaum in the Manner Asserted

Applicants note that a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Further, Applicants note that if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Additionally, Applicants note that if the proposed modification or

combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

Applicants submit that modifying Rosenbaum in the manner asserted by the Examiner would render the prior art invention being modified unsatisfactory for its intended purpose. That is, Applicants submit that Rosenbaum is directed to determining which of the video coding clerks should receive the unsuccessfully read mail pieces based on a prioritization of the video coding clerks. However, modifying Rosenbaum in the manner asserted by the Examiner by determining whether an estimated time for video coding exceeds a determined threshold, so that the image data for the unsuccessfully read mail pieces is not sent to the database 172 or to the video coding clerks makes Rosenbaum unsatisfactory for its intended purpose of having the unsuccessfully read mail pieces examined by one of the video coding clerks. That is, modifying Rosenbaum in the manner asserted would direct at least a portion of the images of the unsuccessfully read mail pieces away from the video coding clerks. Thus, Applicants respectfully submit that modifying Rosenbaum in the manner asserted by the Examiner would render the prior art invention being modified unsatisfactory for its intended purpose.

Additionally, Applicants submit modifying Rosenbaum in the manner asserted by the Examiner would change the principle of operation of the prior art invention. That is, the Rosenbaum device is directed to sending an image of each unsuccessfully read mail piece to one of the video coding clerks based on a prioritization of the video coding clerks. However, incorporating a determination of whether an estimated time for video coding exceeds a determined threshold so that the image data for the unsuccessfully read mail pieces may be directed away from the database 172, would prevent examination by one of the video coding

clerks. As such, modifying Rosenbaum in the manner as asserted by the Examiner would change the principle of operation of the Rosenbaum device.

Thus, for at least the above-noted reasons, Applicants respectfully submit that Rosenbaum teaches away from being modified in the manner asserted by the Examiner and the modification of Rosenbaum in the manner asserted by the Examiner would render Rosenbaum unsatisfactory for its intended purpose and would change the principle of operation of Rosenbaum. As such, Applicants submit that it would not have been obvious to one of ordinary skill in the art to modify Rosenbaum in the manner asserted to arrive at the claimed invention.

At least for the above-noted reasons, Applicants submit that Rosenbaum does not teach or suggest an estimated time for video coding, either explicitly or implicitly. As such, Rosenbaum cannot arguably teach or suggest determining whether an estimated time for video coding exceeds a determined threshold, as recited in independent claims 1, 10, and 15. Therefore, Rosenbaum does not teach or disclose each and every feature of the claims, and does not render obvious the claimed invention.

Dependent Claims 2-4, 14, and 16-19 over Rosenbaum

Applicants submit that claims 2-4, 14, and 16-19 each depend from one of allowable independent claims 1, 10, and 15, and are allowable by virtue of the allowability of the respective independent claims. Also, the applied references do not teach or suggest many of the features of the dependent claims.

Accordingly, Applicants respectfully request that the §103 rejection of claims 1-4, 10, and 14-19 be withdrawn.

Dependent Claims 5 and 20 over Rosenbaum in view of Manduley

Applicants respectfully traverse the rejection of claims 5 and 20. Claim 5 recites, in pertinent part:

... wherein the estimated time for video coding is comprised of a weighted average response time.

Claim 20 recites, in pertinent part:

... wherein at least one of the at least one programmable processor determines the estimated time for video coding based on a weighted average response time.

In addressing claims 5 and 20, the Examiner implicitly acknowledges that Rosenbaum fails to disclose the above-noted features of claims 5 and 20. However, the Examiner asserts that Manduley discloses calculating an average response time, and that it would have been obvious to one of ordinary skill in the art to combine Rosenbaum and Manduley “in order to provide up-to-date information regarding mail pieces.” Applicants respectfully disagree.

Manduley discloses a mail delivery system with arrival monitoring. More specifically, Manduley discloses a mail tracking system, whereby a mail piece is tracked from a local postal facility (where the mail piece originates), through a central postal facility to the delivery postal facility (that serves the addressee). Manduley discloses at col. 11, line 66 – col. 12, line 20:

... each entry point into the delivery chain after release of the mail by the local user may be a data input point. Thus, the delivery service may possess input equipment which allows each piece of mail upon transfer to the delivery service to be inputted into a central database system indicating the specific location of the mail piece. Upon transfer of the mail piece from one location to the next, an appropriate tag or dateline is placed upon the mail piece certification encryption key line when entered into the database. ... at each entry point into the system, the operator may be able to inquire ... the specific location of a mail piece ... Since each mail piece certification key line will have a tag attached thereto, which is continuously updated as the mail piece goes from input point to input point along the delivery chain, the user should receive back an indication based upon such added key line of the location of the specific mail piece.

Thus, Applicant submits that Manduley discloses a tracking system for mail pieces as they travel from a sender's local post office to an addressee (or an addressee's post office). Applicants acknowledge that Manduley discloses anticipating or knowing "typical or average time it should take through each station".

However, Applicants submit that Manduley at least fails to disclose "a weighted average response time," as recited in claims 5 and 20. That is, Manduley discloses determining an average time it should take for processing through each station of mail delivery. Manduley then compares the processing time of a particular single piece with the average time to determine if the particular piece of mail is on schedule.

However, Applicants submit that Manduley does not disclose a weighted average response time. According to the invention, the weighted average response time represents an estimated time for video coding. Moreover, the weighted average response time provides an indication of how long video coding has taken recently, based upon a previous weighted average response time and a response time for the current article. The weighted average response time is updated with each video coding.

As explained in the specification, the present invention determines a weighted average response time using a configurable weight factor. More specifically, the configurable weight factor is used to control the effect of a single measured response time on the overall weighted average response time. That is, if a single measured response time, for example, was very large, this may have cause an average response time to vary greatly. According to the invention, by using a weighted average response time, the effect on the weighted average response time is controlled and configurable.

Thus, Applicants submit that Rosenbaum in view of Manduley does not disclose or teach each feature of claims 5 and 20, and does not anticipate the claimed invention.

Additionally, Applicants submit claims 5 and 20 are dependent claims, depending from distinguishable base claims. Thus, these claims should be in condition for allowance at least based upon their dependencies.

Accordingly, Applicants respectfully request that the §103 rejection of claims 5 and 20 be withdrawn.

Furthermore, Applicants respectfully submit that the Examiner did not address claims 5 and 20 as claimed. That is, claims 5 and 20 recite a “weighted average response time.” However, in rejecting claims 5 and 20, the Examiner asserted that Manduley discloses an average response time. Thus, Applicants submit that the Examiner did not properly address claims 5 and 20 and did not provide a *prima facie* case of obviousness.

Complete Action not Provided

Applicants respectfully submit that the Examiner did not provide a complete action, and as such, Applicants submit that the next action should not be a final action. The Examiner is reminded of the guidance provided by 37 C.F.R. § 1.104(a)(1) regarding the Nature of Examination (emphasis added):

On taking up an application for examination . . . the examiner shall make a thorough study thereof and shall make a thorough investigation of the available prior art relating to the subject matter of the claimed invention. The examination shall be complete with respect to both compliance of the application . . . with the applicable statutes and rules and to the patentability of the invention as claimed, as well as with respect to matters of form, unless otherwise indicated.

Applicants submit that the Examiner did not address claim 3, 5, 10, 17, 18 and 20 as claimed. More specifically, in rejecting claims 3 and 17 over Rosenbaum, Applicants submit that the Examiner did not address the features of “if the estimated time for video coding exceeds the determined threshold”. In rejecting claims 5 and 20 over Rosenbaum in view of Manduley, Applicants submit that the Examiner did not address the features of “weighted” average response time. In rejecting claim 10 over Rosenbaum, Applicants submit that the Examiner did not address the features of “if the estimated time for video coding does not exceed the determined threshold” and “if the estimated time for video coding exceeds the determined threshold, then determining whether the video coding station is busy, and if the video coding station is not busy, then sending image data for the unresolved information to the wait queue until a determined release event or timeout occurs, and if the determined release event occurs, then sending the image data for the unresolved information from the wait queue to the video coding buffer; and if the video coding station is busy, then not sending the image data for the unresolved information to the video coding buffer.” In rejecting claim 18 over Rosenbaum, Applicants submit that the Examiner did not address the features of “if the estimated time for video coding exceeds the determined threshold and the video coding station is busy.”

Moreover, Applicants respectfully remind the Examiner of the guidance provided by MPEP § 707.07(d), which states:

A plurality of claims should never be grouped together in a common rejection, unless that rejection is equally applicable to all claims in the group.

Applicants submit that the rejections of claims 4, 10, 18 and 19 were improper as being impermissibly grouped together in common rejections. More specifically, claims 4 and 18 were improperly grouped together in a common rejection that was not equally applicable to all claims

in the group. Applicants submit that claims 4 and 18 recite different features, and thus the common rejection was not equally applicable to claims 4 and 18. Additionally, claim 10 and 19 were improperly grouped together in a common rejection that was not equally applicable to all claims in the group. That is, Applicants submit that claims 10 and 19 recite different features, and thus the common rejection was not equally applicable to claims 10 and 19.

For these reasons, Applicants submit that a clear issue was not developed between the Examiner and Applicants. As such, Applicants submit that the next Office Action, which should clarify this issue, *cannot* be made final.

According to MPEP 706,

Before final rejection is in order a clear issue should be developed between the examiner and applicant. To bring the prosecution to as speedy conclusion as possible and at the same time to deal justly by both the applicant and the public, the invention as disclosed and claimed should be thoroughly searched in the first action and the references fully applied; and in reply to this action the applicant should amend with a view to avoiding all the grounds of rejection and objection.

Additionally, MPEP 706.07(a) notes:

Under present practice, second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p). ...

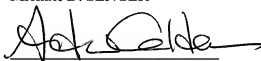
Furthermore, a second or any subsequent action on the merits in any application ... will not be made final if it includes a rejection, on newly cited art, other than information submitted in an information disclosure statement filed under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17 (p), of any claim not amended by applicant or patent owner in spite of the fact that other claims may have been amended to require newly cited art.

Accordingly, Applicants respectfully submit that the Examiner may not make the next action final, as in the previous Office Action a “clear issue [was not] developed between the examiner and applicant”.

CONCLUSION

In view of the foregoing remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby make a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 19-0089.

Respectfully submitted,
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